

RAI Volume 4, Chapter 2.5.3.2, First Set, Number 1: The following questions are related to Title 10 of the Code of Federal Regulations (10 CFR) Part 63, specifically, 10 CFR 63.21(c)(22).

Explain how the organizational assignment of the Nuclear Criticality Safety Program (NCSP), as given in the proposed organizational chart (SAR Figure 5.3-1), is consistent with DOE's commitment to ANSI/ANS-8.19-2005, American National Standard, Administrative Practices for Nuclear Criticality Safety (as referenced in SAR Section 1.14.1). Specifically, explain how the NCSP is administratively independent of operations, and how the NCSP organizational functions and responsibilities are assigned in a manner consistent with those of other safety programs (such as Radiation Protection).

Alternatively, provide a revised organizational chart and explain the NCSP's organizational assignment, functions, and responsibilities, consistent with ANSI/ANS-8.19-2005.

1. RESPONSE

The U.S. Department of Energy (DOE) has reviewed the organizational structure as shown in SAR Figure 5.3-1 and has decided that the proposed organization should be revised to improve the administrative independence of the Nuclear Criticality Safety Program (NCSP) from operations. The revised organizational structure will combine the Criticality Safety Manager functions with those of the Radiation Protection Manager and will be called the Radiation Protection and Criticality Safety Manager. This change will allow the NCSP to be administratively independent of operations and to function organizationally and to have responsibilities assigned in a manner consistent with those of other safety programs (such as Radiation Protection).

The Radiation Protection and Criticality Safety Manager will be at an equivalent level to the Operations Manager. Both managers will report to the Site Operations Manager and Chief Nuclear Officer. Reporting to the Radiation Protection and Criticality Safety Manager will be a Senior Nuclear Criticality Safety Specialist and a Senior Radiation Protection Specialist. Both specialist positions will require as a minimum, a bachelors degree in engineering, the physical sciences, or have equivalent technical experience. In addition, the Senior Nuclear Criticality Safety Specialist will have at least three years of nuclear industry experience in criticality safety. The Senior Radiation Protection Specialist will have at least three years of nuclear industry experience in radiation protection.

These organizational changes require revision to SAR Figure 5.3-1 and several SAR sections which currently describe the radiation protection and the nuclear criticality safety functions separately. The revisions to the organizational assignment, functions, and responsibilities, shown in Section 3 of this response are consistent with ANSI/ANS-8.19-2005 and the DOE commitment to the standard since they provide the NCSP with:

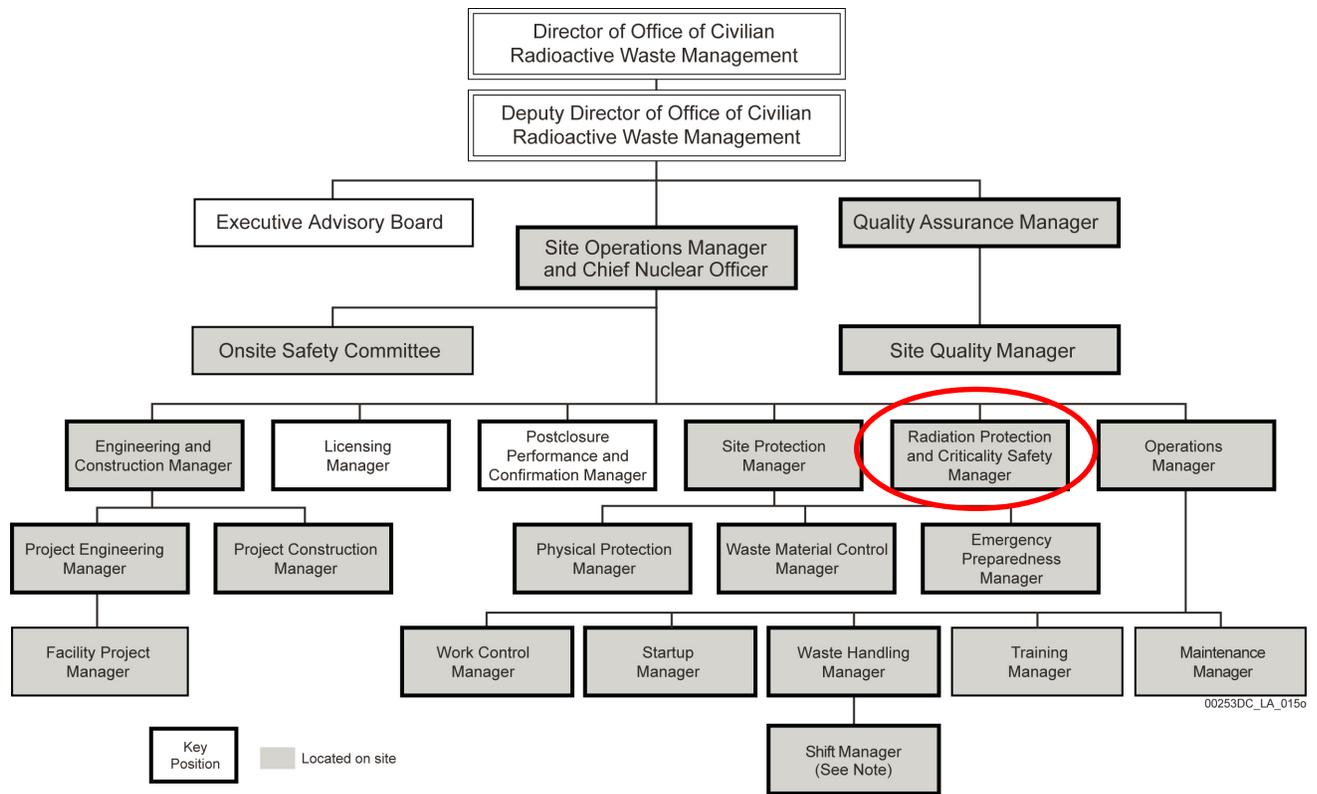
- Responsibilities assigned in a manner compatible with that of other safety disciplines (Paragraph 4.3 of ANSI/ANS-8.19-2005), and
- Functions administratively independent of operations (Paragraph 4.3 ANSI/ANS-8.19-2005).

2. COMMITMENTS TO NRC

The DOE commits to revise the LA to reflect the change to SAR Figure 5.3-1 and associated text indicating the organizational structure shown in the attached figure. SAR Figure 5.3-1 and the text in SAR sections which describe the radiation protection and the nuclear criticality safety functions will be revised in a future LA update.

3. DESCRIPTION OF PROPOSED LA CHANGE

The DOE will revise Figure 5.3-1 as shown below.



In addition, related SAR sections will be revised as follows:

Section 1.10.1.2, Page 1.10-4, 10th bullet—Position title change from “Radiation Protection Manager” to “Radiation Protection and Criticality Safety Manager” so the bullet will read as follows:

- Provides for assigned personnel reporting to the Radiation Protection and Criticality Safety Manager with ALARA implementation responsibilities.

Section 1.10.4.1.1, Page 1.10-42, 2nd paragraph—Position title change from “Radiation Protection Manager” to “Radiation Protection and Criticality Safety Manager” and change the reference to the “radiation protection manager” in the second sentence to “radiation protection personnel” so the paragraph will read as follows:

The authority to prevent unsafe practices and to direct steps to prevent unnecessary radiation exposures rests with the radiation protection organization. Radiation protection personnel report to the Radiation Protection and Criticality Safety Manager and handle the day-to-day implementation of the Operational Radiation Protection Program (Section 5.11). To ensure compliance with this expectation, the radiation protection personnel are charged with the responsibility to ensure safe radiological work practices. It is also the obligation of radiation protection personnel, and all repository personnel, to halt operations that, in their judgment, are unsafe.

Section 1.14.1, Page 1.14-2, 3rd paragraph—Position title change from “Radiation Protection Manager” to “Radiation Protection and Criticality Safety Manager,” title change from “Operations manager” to “Site Operations Manager” and Section reference changed from “5.3.2.1.8” to “5.3.2.1.7” so the paragraph will read as follows:

Section 5.3 describes the organizational structure for the repository during its operational phase. The criticality safety organization reports to the Radiation Protection and Criticality Safety Manager, who is stationed at the site and reports to the Site Operations Manager. The Radiation Protection and Criticality Safety Manager is responsible for developing and implementing the program for nuclear criticality safety. The minimum qualifications of the Radiation Protection and Criticality Safety Manager are listed in Section 5.3.2.1.7.

Section 5.0, Page 5-4, 4th full paragraph—Position title change from “Radiation Protection Manager” to “Radiation Protection and Criticality Safety Manager,” and program changed from “Radiation Protection Program” to “Radiation Protection and Criticality Safety Programs” so the paragraph will read as follows:

The radiation protection organization will be staffed with qualified radiation safety professionals responsible for ensuring that the program is developed and implemented effectively. Qualification of radiation protection technicians will incorporate certification training and examination, on-the-job training, and

evaluation. The Radiation Protection and Criticality Safety Manager will have direct access to the Site Operations Manager and other repository managers to address issues related to radiation protection. The Radiation Protection and Criticality Safety Manager or designee will review procedures and processes and revisions thereto to ensure the Radiation Protection and Criticality Safety Programs are appropriately addressed.

Section 5.3.1.2.1, Page 5.3-5, 2nd full paragraph 7th bullet—Position title change from “Radiation Protection Manager” to “Radiation Protection and Criticality Safety Manager” so the bullet will read as follows:

- Radiation Protection and Criticality Safety Manager

Section 5.3.1.2.2, Page 5.3-6, 5th bullet—Position title change from “Radiation Protection Manager” to “Radiation Protection and Criticality Safety Manager” so the bullet will read as follows:

- Radiation Protection and Criticality Safety Manager

Section 5.3.1.2.8, Pages 5.3-8 and 5.3-9 Section title, 1st and 2nd paragraph—Position title change from “Radiation Protection Manager” to “Radiation Protection and Criticality Safety Manager,” responsibility change consistent with title change, and a bullet inserted between the 3rd and 4th bullets so the paragraph will read as follows:

5.3.1.2.8 Radiation Protection and Criticality Safety Manager

The Radiation Protection and Criticality Safety Manager is a key manager who will be located on site and will report to the Site Operations Manager. The Radiation Protection and Criticality Manager will be responsible for the conduct of day-to-day development, management, assessment, and implementation of processes and programs, including the issuance of procedures, associated with the Radiation Protection and Criticality Control Program. The Radiation Protection and Criticality Safety Manager will ensure that sufficient personnel will be available to implement the Radiation Protection and Criticality Control Program in compliance with applicable procedures, the Quality Assurance Program, and NRC regulatory requirements. This manager’s duties will include development, overseeing and assessment of the adequacy of the implementation of a radiation protection and nuclear criticality safety personnel qualification program based on a systematic approach to training. Radiation protection personnel will be trained in the use of radiation measurement equipment, monitoring radiation protection work practices and worker exposure, and conducting the Radiological Environmental Monitoring Program. Criticality Control personnel will be trained in nuclear theory, calculational methods, critical experiments and data, and nuclear criticality safety evaluations.

The Radiation Protection and Criticality Safety Manager will be independent of the Operations Manager to ensure objective conduct of responsibilities. During emergency conditions, the Radiation Protection and Criticality Safety Manager's duties will also include:

- Providing emergency center personnel information and recommendations concerning radiation levels at the repository
- Gathering and compiling onsite and offsite radiological monitoring data
- Making recommendations concerning onsite recovery actions and offsite protective actions deemed necessary for limiting radiological exposures to repository personnel and members of the general public
- Ensuring Criticality Control is maintained
- Coordinating decontamination activities.

Section 5.3.1.2.9, Page 5.3-9, 1st paragraph—Responsibility for criticality safety will be deleted so the paragraph will read as follows:

The Operations Manager is a key manager who will be located on site and will report to the Site Operations Manager. The Operations Manager will have direct responsibility for work control, startup activities, training, maintenance, and the conduct of operations for GROA nuclear and balance of plant facilities, including fire protection and review and approval of maintenance procedures. The Operations Manager will also be responsible for activities supporting the waste acceptance function.

Section 5.3.1.2.9, Page 5.3-9, 3rd paragraph will be deleted:

Criticality Safety Manager—The Criticality Safety Manager is a key manager who will be located on site and will report to the Operations Manager. The Criticality Safety Manager will be responsible for developing and overseeing the adequacy of the implementation of the nuclear criticality safety programs. To ensure objective criticality audit, review, and control activities, the Criticality Safety Manager is independent of the Waste Handling Manager.

Section 5.3.1.2.9, Page 5.3-10, 5th paragraph—Position title change from “Radiation Protection Manager” to “Radiation Protection and Criticality Safety Manager” so the paragraph will read as follows:

Training Manager—The Training Manager will be located on site and will report to the Operations Manager. The Training Manager will interface with the Engineering and Construction Manager, the Licensing Manager, the Postclosure Performance and Confirmation Manager, the Site Protection Manager, the

Radiation Protection and Criticality Safety Manager, and the Operations Manager, and their personnel. The Training Manager will be responsible for developing and maintaining training programs for all aspects of repository construction and operations, including general employee training. The Training Manager will also be responsible for maintaining training records in accordance with the records management system.

Section 5.3.2.1.7, Page 5.3-15, Position title and paragraph—Position title change from “Radiation Protection Manager” to “Radiation Protection and Criticality Safety Manager” and qualification changes so title and paragraph will read as follows:

5.3.2.1.7 Radiation Protection and Criticality Safety Manager

The minimum qualifications for this position are a bachelor’s degree in science, health physics, radiation protection or engineering; and 6 years nuclear experience and 3 years of supervisory or management experience at a facility where nuclear criticality safety was practiced.

Section 5.3.2.1.8, Page 5.3-15, the following will be deleted:

Criticality Safety Manager—The minimum qualifications for this position are a bachelor’s degree in engineering or a related discipline, a combined 6 years of experience in the criticality safety aspects of nuclear facility design and operations, and 3 years of supervisory or management experience.

Section 5.3.3.2.3.2, Page 5.3-20, the 4th bullet below will be added:

- Operators
- Maintenance technicians (electrical, mechanical, and instrumentation)
- Radiation protection technicians
- Criticality control safety technicians
- Chemistry technicians
- Engineers and professionals.

Section 5.7.7.2.1.2, Page 5.7-15, 3rd full paragraph, 5th bullet—Position title change from “Radiation Protection Manager” to “Radiation Protection and Criticality Safety Manager” so the bullet will read as follows:

- Radiation Protection and Criticality Safety Manager

Section 5.7.7.2.2.3.3, Page 5.7-18, 1st sentence in paragraph—Position title change from “Radiation Protection Manager” to “Radiation Protection and Criticality Safety Manager” so the sentence will read as follows:

The Radiological Response Manager is the Radiation Protection and Criticality Safety Manager or designee.

Table 5.7-4, Page 5.7-49, 4th column, 5th cell–Position title change from “Radiation Protection Manager” to “Radiation Protection and Criticality Safety Manager” so the cell will read as follows:

Radiation Protection and Criticality Safety Manager

Section 5.11.1, Page 5.11-3, 1st paragraph–Position title change from “Radiation Protection Manager” to “Radiation Protection and Criticality Safety Manager,” and organization title change in last sentence from “radiation protection organization” to “radiation protection and criticality safety organization” so the paragraph will read as follows:

The program will identify radiation protection staffing requirements based on the guidance contained in ANSI/ANS-3.1-1993, *American National Standard for Selection, Qualification, and Training of Personnel for Nuclear Power Plants*. The radiation protection organization will be staffed with qualified radiation safety professionals who will be responsible for developing and implementing an effective radiation protection program. The Radiation Protection and Criticality Safety Manager and the radiation protection organization will operate independently of the operations and maintenance organizations. The Radiation Protection and Criticality Safety Manager will have direct access to the Site Operations Manager and other facility management to address issues relating to radiation protection program implementation. Section 5.3.2.1.7 addresses the qualifications of the Radiation Protection and Criticality Safety Manager. The radiation protection and criticality safety organization will interface with the other facility organizations to facilitate integration of radiation protection program requirements consistent with ALARA principles into their programs.